
Workshop on Allied Health Manpower: A Cooperative Approach to Data Collection and Analysis

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ALTHOUGH ALLIED HEALTH MANPOWER includes more than 1 million persons now active in the overall health work force, there is a serious lack of comprehensive and reliable data that policy makers and interested organizations can use to describe and project the supply and requirements for personnel. Among Federal agencies as well as professional associations of allied health workers there is growing concern that the lack of a cooperative, systematic, and inclusive system to collect and analyze information hinders the accurate assessment of manpower trends and the development of policy for the coming years.

Need for Cooperative Efforts

To address the current insufficiency of data, the Bureau of Health Manpower (BHM), Health Resources Administration, sponsored a workshop on September 11-13, 1979, in Bethesda, Md. The Workshop on Allied Health Manpower was a unique effort, bringing together for the first time representatives from Federal agencies and professional associations to discuss common data problems and needs. Participants represented 14 allied health professional associations, the American Medical Association's Committee on

Allied Health Education and Accreditation, the American Hospital Association, the Bureau of Health Manpower, the National Center for Health Statistics, and the Bureau of Labor Statistics.

The specific objectives of the workshop follow:

- to provide an exchange of information and ideas on the current availability of data and analysis;
- to familiarize participants with available data processes, resources, and mechanisms capable of providing analysis;
- to identify and prioritize problems, issues, and gaps and develop a conceptual framework for constructing a more efficient and effective means of obtaining and analyzing data on allied health manpower; and
- to identify and select appropriate, cooperative strategies for producing information useful to all parties.

The workshop was opened by its moderator, Mary Schneider, Research Associate in the Division of Allied Health, University of South Dakota, who indicated that the workshop grew out of a series of discussions between the Bureau of Health Manpower and several professional associations. It soon became apparent, Schneider said, that a forum for discussion and cooperative efforts among many interested parties would be essential to development of a common information base. The current workshop was an attempt to stimulate these efforts, she said, with one day of presentations on existing activities to be followed by a day and a half of small group meetings to identify critical issues and propose tentative solutions or strategies.

Thomas D. Hatch, Acting Deputy Director of the Bureau of Health Manpower, welcomed participants on

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behalf of the Bureau. Hatch noted that concern about the adequacy of supply and distribution of allied health personnel was even more important today than in the mid-1960s and early 1970s, when the principal concern was the total number of personnel in the work force. Questions about "where these personnel are, what they're doing, and how they're doing it" will become increasingly vital, he said.

David A. Hoover, Acting Deputy Director of the Division of Associated Health Professions, BHM, noted that widespread conceptions about allied health manpower have seldom been drawn from a systematic body of quantifiable data. As a result, "fairly gross misconceptions" appear prevalent, he said. "I don't think anyone has evidence to really show in any meaningful national sense what the cost-benefit situation and the supply-requirements situation are for allied health personnel."

Hoover said that many believe no national shortages of allied health manpower exist, yet there is enough information to suggest strongly that there are shortages in some occupations and critical manpower problems in rural and inner-city areas that may affect service delivery. Hoover also stated that information about the impact of manpower regulation is needed, but that currently, "no one is in any position to say what the probable impact of any proposed or actual regulation will be, because we simply do not know enough." Federal policymakers and program managers and professional associations concerned with future trends all have similar data and analytical needs, he said, so that cooperation among all parties in collecting and analyz-

ing information can not only provide more inclusive data, but can help minimize expenditures and alleviate financial limitations.

Howard V. Stambler, Director of the Division of Manpower Analysis, BHM, noted that several problems now constrain improved data efforts, including the large number of occupations in a large number of settings, the limitation on funds that both Federal and professional organizations have available for such endeavors, and the lack of consensus on what constitutes "allied health." An extended lag between collection and presentation of data often results from funding, contractual, and methodological problems. In particular, he said, the lack of consensus on the definition of allied health occupations, tasks, and work settings complicates collection of data and utilization of findings. In addition, local and State regulations or laws governing the employment of allied health personnel need to be taken into account as data efforts are mounted.

Stambler said that many current perceptions of allied health manpower are based on "apocryphal stories not backed by hard data and analysis." While some data collection in allied health is being conducted, there has been "very little attempt at analysis," he noted. Additional attention must be paid to work force mobility, to where the students go to work after graduation, and to forecasting supply and requirements for allied health occupations.

Finally, Stambler said that "although the manpower policies that emerge can be argued over, current

policy on the allied health professions is being argued over in a complete vacuum of information. Reliable information, therefore, is urgently needed to establish a consensus on the current status of allied health manpower, upon which policy makers and legislators can base their deliberations. A reliable data base is one from which all stand to benefit."

Following these introductory remarks, a series of panels presented detailed descriptions of allied health data activities conducted by Federal and non-Federal organizations. The first such panel was composed of Federal participants.

Federal Data Collection Efforts

Charles Croner of the Division of Health Manpower and Facilities, National Center for Health Statistics (NCHS) discussed the Center's publication, "Health Resources Statistics" (1). The data are drawn from professional societies, which provide annual data on 87 categories of manpower; public agencies, which provide information on population, education, and various types of outpatient and nonpatient facilities; and the NCHS Master Facility Inventory and the Co-operative Health Statistics System, which yield counts of inpatient health facilities. Croner discussed the methodology and preparation of the document, and the necessity to keep abreast of factors that affect such data. Research, he noted, must take into account factors such as the influence of national legislation, licensure status of personnel and accreditation of institutions, signs of stability or growth in facilities and occupations, and trends affecting current and future status of personnel or facilities.

Stuart Bernstein of the Division of Manpower Analysis (DMA) reported on two Bureau efforts in the collection and analysis of information on the allied health work force. From existing State studies, DMA has developed two systems to compile manpower data on allied health personnel. The Allied Health Employment Matrix presents employment and vacancy information for approximately 50 occupations. It has generated national supply estimates for 15 allied health occupations as of 1976. Bernstein noted that the system is hampered significantly by the low technical quality of the primary data sources; only about one-third of the documents reviewed have been of sufficient technical rigor to merit inclusion. Only with improvement in primary sources and elimination of many gaps in the data can the utility of the national estimates be improved significantly. The Bibliographic System supplies basic bibliographic information on existing studies and detailed descriptions of studies used to supply data for the Employment Matrix.

Bernstein also reported on a forecasting effort employing a variant of the existing Supply Output and Requirements Model now used to forecast manpower figures for medicine and other health professions. A new effort, this model will incorporate components relating to permanent and interim attrition in the work force and its racial and ethnic composition. Initially, this model will be used to project the future supply of physical therapists and occupational therapists. The Division will also investigate the feasibility of applying this model to other allied health occupations.

B. Jerald McClendon of the Division of Associated Health Professions, BHM, briefly discussed the Bureau's use of manpower data in budgetary decision-making, program evaluation, and reporting to Congress. He then stated that several major changes in emphasis would greatly improve the Bureau's ability to supply information for policy and program development. More emphasis is needed, he said, on obtaining and analyzing work force data and, particularly, the geographic distribution patterns by occupation. Analyses of the work force have not focused on regional and local variations or shortages. He recommended that such efforts pay greater attention to demand and need considerations, rather than simply considering the supply. Methodological and definitional problems are endemic to allied health, he noted, and should be carefully considered before beginning extensive collection of data. Finally, more emphasis needs to be placed on forecasting and projections, which have received too little attention in the past.

The fourth panelist, Mike Pilot of the U.S. Bureau of Labor Statistics, described the BLS Occupational Outlook Handbook Project, and the relation of its occupational projections to the Bureau's economic model of the national economy (2). This project utilizes secondary data from other agencies and membership associations, and Pilot indicated that BLS has faced problems in collecting accurate information on allied health professions (only 25 of which are represented in the current Handbook) and in assembling accurate information on the flow of workers from the educational pipeline to the work force.

Efforts of Professional Associations

Three succeeding panels brought together speakers from allied health professional associations, who reported on the activities undertaken by their associations to collect information on their memberships and occupational fields. The first panel included Fran Acquaviva, Director of Operations Research for the American Occupational Therapy Association; Beverly Bailey,

Legislative Coordinator, American Dental Hygienists Association; Donald Balasa, Legal Director, American Dental Assistants Association; and Elizabeth Price, Director of Professional Services, American Medical Records Association.

Several comments of these panel members were echoed throughout the conference. Although a few associations maintain capability and resources to conduct manpower research to some degree and are apparently building a research constituency among their membership, others are constrained by limited resources and an inability to convince their members that collection and analysis of such information are consonant with the objectives of the organization.

Fran Acquaviva noted that data collection and analysis efforts conducted by professional associations can assist associations in planning and conducting activities for their members. Such studies are used by the American Occupational Therapy Association in establishing career mobility programs, assessing appropriate entry-level qualifications and requirements, helping State associations in developing placement programs, and refining and redirecting continuing education programs for members. The association conducts full membership surveys every 2 or 3 years, securing data on age, sex, race, education, employment experience, and work settings. It also maintains data on newly certified therapists and assistants. The association annually surveys some 95 educational programs for information on enrollments, graduates, faculty, and outside funding support, and biennially surveys fieldwork experience centers. The organization serves as a clearinghouse for State association surveys to prevent duplication and maintains full data files from its own survey results and other pertinent surveys and sources.

Beverly Bailey noted that the American Dental Hygienists Association represents about two-thirds of all active hygienists but only about one-third of all licensed hygienists. Membership surveys, therefore, will not provide critical information on the reasons for inactive membership and on turnover among practicing hygienists. Constrained by limited resources, the association relies on national data compiled by the Bureau of Health Manpower or the American Dental Association; not all of these data, up to this point, have been particularly relevant to hygienists. The association does not conduct regular surveys of its members but did produce a membership profile in 1978.

Donald Balasa stated similar concerns, indicating that the American Dental Assistants Association represents as little as 10 percent of this work force and could not, as a result, provide information that was necessarily representative of the occupation as a whole.

He pointed out that the association was particularly interested in presenting a case for the expansion of dental assistant functions, which now vary considerably from State to State, but there are no hard data to assess the productivity and effectiveness of dental practices employing dental assistants with expanded functions. Balasa indicated that the organization would be extremely interested in information that could demonstrate the cost savings or potential of dental assistants.

Elizabeth Price described surveys conducted by the American Medical Records Association over the past 15 years. These produced salary data on all levels of medical record personnel according to experience, education, location, and type of work facility; on continuing education; on academic programs providing medical records training with various types of degrees; and on independent or correspondence study programs. The association is also interested in the impact of credentialing on personnel, and on career mobility patterns from medical record technician to administrator.

The second panel brought together representatives of the American Society for Radiologic Technologists and three groups representing segments of the clinical laboratory field: American Medical Technologists, the International Society for Clinical Laboratory Technologists, and the American Society for Medical Technology.

The American Medical Technologists, with a current membership of about 14,000, is both a membership organization and a credentialing body. Chester Dziekonski, its Executive Director, described three surveys: a biennial membership survey of occupational levels, education, employment setting, and position; a survey of enrollees and graduates of accredited institutions; and a tabulation of continuing education credits earned by members.

Mark Birenbaum, Coordinator of Educational Programs for the International Society for Clinical Laboratory Technologists, described the organization's membership and proficiency examination surveys, and discussed computerization of data on membership and continuing education. Birenbaum stated that major concerns of the society are the time lag between data collection and publication and the burden placed on respondents by extensive and duplicative survey requests.

The American Society for Medical Technology represents 30,000 laboratory personnel. Nick Kaufman, Director of the society's Washington office, described laboratory manpower studies the organization has conducted over the past 10 years. These have focused on salaries nationwide, the attitudes of medical tech-

nologists toward work-related problems, State licensure requirements, and distribution and shortages of medical technology personnel. The society is particularly concerned with development of data bases relating to competency assessment, health planning, cost containment, job placement, continuing education, career mobility, and multiple registry and licensure issues.

Marilyn Fay, Director of Education for the American Society for Radiologic Technologists, reviewed the society's data concerns involving 22,000 members, including 3,000 students. The organization represents 10 to 20 percent of the total work force in the field of radiologic technology. The society and the American College of Radiology are preparing a report on radiologic technologist manpower, examining factors that will influence demand. These include education, workload, credentialing requirements, job descriptions, and the supply, distribution, and characteristics of work force (3).

The third panel included William K. O'Connell, Assistant Executive Director, American Dietetic Association; James Clinkingbeard, Director of Educational Affairs, American Physical Therapy Association; Katherine J. Evans, Director of Education, American Association for Respiratory Therapy; and Kenneth Perrin, Director of Education and Scientific Programs, American Speech-Language-Hearing Association.

William O'Connell discussed supply and demand studies conducted by the American Dietetic Association—an annual survey of membership, a study of the roles and functions of entry-level practitioners, and a dietetic staffing study from which the association plans to develop a model to compute staffing needs for institutions. It is also conducting a 2-year dietetic manpower demand study and a study to analyze the efficiency and cost effectiveness of providing nutritional counseling to ambulatory care patients. The organization would like to see a cost analysis of training at various levels and studies on the productivity of dietetic professionals in different health care settings, on physician usage of dietitians, and on consumer preferences and habits.

James Clinkingbeard reported that since 1973, the American Physical Therapy Association has conducted a series of salary surveys. A 1978 membership profile has produced data on salaries, education, job mobility, and employment (4). An annual education survey assesses the supply of manpower entering the field and has assisted the organization in developing a minority recruitment and retention program. The association is also planning more complete studies on educational programs, changing degree requirements, and supply and demand for physical therapists.

Katherine Evans of the American Association for Respiratory Therapy noted that comprehensive data on respiratory therapy manpower are of major concern to a field in which large numbers of practitioners are trained on the job. The association approached the question through a 1977-78 survey of respiratory therapy manpower in hospitals (5). Evans echoed comments from other participants who noted that a variety of methodological and procedural problems are faced by associations with limited experience in and resources for data collection. Evans suggested that a useful approach might include simplification of questionnaires where possible and dividing data collection into smaller efforts at staggered intervals.

Kenneth Perrin reported that the American Speech-Language-Hearing Association represents 5,000 audiologists and 28,000 speech-language pathologists, all of whom have graduate degrees. He noted that the association is interested in collecting data on approximately 12,000 persons with baccalaureate degrees who work in the field but do not qualify for membership in the association.

Perrin discussed the organization's 1978 survey of educational programs and an extensive 1977 manpower study conducted in cooperation with the National Institutes of Health (6). The association also conducts periodic salary surveys of its membership and at the same time obtains information on employers, geographic location, sex, age, and certification.

Perrin listed several issues that would shape future data collection and analysis efforts: impact of unemployed members returning to the work force, role of part-time workers, changing employment settings, future projections of supply and requirements, absence of Black and Hispanic educational programs, and an assessment of the association's certification program.

Other Efforts in Data Collection and Analysis

The final panel included Barbara Bloom, Director of the Council on Human Resources, American Hospital Association (AHA); Charles McClinton, Assistant Director of the American Medical Association's Department of Allied Health Evaluation; A. Bruce Cyr, Associate Director for Research Projects, Foundation of the American College of Nursing Home Administrators; and Pamela Griffith, Project Coordinator, American Society for Allied Health Professions.

Barbara Bloom reported that the American Hospital Association has convened a Task Force on Manpower which recommended the coordination, by or through the association, of data collection at Federal, State, and local levels. The association collects annual statistics

on allied health manpower in hospitals including types of positions, vacancies, union membership, and numbers of personnel. In the past, AHA has also collected data on hospital-based educational programs.

The American Hospital Association suggests the development of a model format for data collection that could be adapted for use by various organizations. Data elements of interest would include manpower supply and demand, wages and salaries, staffing patterns, retention rates, educational programs, apprenticeships, productivity, and entry level requirements.

Charles McClinton described the AMA's Committee on Allied Health Education and Accreditation as a possible source of health manpower data. In accrediting educational programs, the committee reviews and acts on approximately 900 applications each year. In all, nearly 3,000 programs in 26 allied health fields are accredited by this group, and each year, it surveys these programs to assess program changes, student capacity, available financial assistance, tuition costs, and number of graduates. McClinton also presented preliminary tabulations of the data that will appear in the next annual report and the committee's "Allied Health Education Directory" (7). Educational data are available from the Committee on Allied Health Education and Accreditation on request.

A. Bruce Cyr reported that the Foundation of the American College of Nursing Home Administrators is concerned with and uses secondary data sources such as the NCHS Master Facility Inventory and the National Nursing Home Survey. It is also concerned with the methodology of data collection and analysis, validity, coordination of data, and limited financial resources. Cyr expressed concerns similar to those of other organizations participating in the conference.

Pamela Griffith reported that the American Society of Allied Health Professions is an umbrella organization for allied health fields, with a current membership of 145 schools and professional organizations and some 1,250 persons from various allied health occupations. It is currently conducting the fourth inventory of collegiate allied health programs. Results of the third inventory were published in 1978 (8). The 1979-80 inventory will include data on enrollments, applicants, faculty, graduates, and student characteristics such as sex and racial or ethnic composition. The society is also conducting a study of minority participation in collegiate allied health education. Recommendations will be made to alleviate identified problems of minority representation. The organization also has a Task Force on Research and is beginning to develop a clearinghouse of data on allied health education and practice. The society would like to see a model developed

which would describe in detail the relationships between education and practice.

Priority Issues

Following these opening presentations, the remaining day and a half were devoted to developing a list of issues and problems requiring immediate concern and attention and possible solutions. These exchanges were reasoned, enthusiastic, and occasionally heated. The groups participating have rarely had the opportunity to voice their specific concerns and data needs, and the extent of involvement and commitment to data gathering and analytical efforts varied considerably among the groups present. As a result, unanimity among the participants could not have been a reasonable goal for this initial effort.

Yet, as David Hoover noted, the participants at the workshop, "all have responsibilities as analysts of health manpower and have a common mission to provide organizational decision-makers with data for policy formulation." Thus, as Howard Stambler said, "reaching a quick consensus on issues and activities is less important at this stage than broadening the relationship between allied health practitioners and the Bureau of Health Manpower and promoting a cooperative approach to analytical and data efforts."

Nevertheless, a number of primary concerns were delineated in the final workshop session. The workshop group agreed that clearly defined goals and objectives for data efforts was a basic lack and appeared particularly critical because of the multiplicity of organizations and interests represented within the broad category of allied health. The sense of the group was that this problem must be addressed immediately. Given the serious constraints on funds available to any given organization, a national effort is needed to undertake issue identification and related matters.

A series of methodological problems drew considerable comment. The group indicated that there existed no consensus on definitions and measurements of need and demand for allied health occupations. It was clear that little agreement exists on which occupations are "allied health" and the limits of their responsibilities. Which occupations should be considered, or which levels of personnel within a set of related occupations should be studied, also remains unclear. The associations indicated that, as membership organizations, they have had considerable difficulty in developing profiles of their fields because of an inability to collect data about nonmembers who, in some cases, are the majority within the profession.

Data on turnover and retention rates were considered a major need, as was the need to develop methods for forecasting and projections. The participants agreed

that it is necessary to collect sufficient information on trends in licensure requirements, health insurance, technological change, and a variety of other factors that will influence the development of the health care system as a whole, and allied health manpower in particular. Several participants recommended the creation of a minimum basic data set for allied health occupations.

The group expressed concern about a number of additional issues that should receive specific attention in the future. Existing information on minority concerns and minority representation in the allied health work force is woefully inadequate, and a means should be found to collect and analyze data on minorities in these occupations. It was also noted that, although women compose a large majority of the practitioners in many of these occupations and are entering others in increasing numbers, they are not always adequately represented at supervisory and managerial levels. Better documentation of representation, salary structures, and career prospects for women is clearly needed.

Issues related to credentialing also received considerable attention. The group felt that data on upward mobility within the work force, and on the impact of State licensure and voluntary credentialing, needed additional work.

Some professional associations reported a serious lack of knowledge about data collection processes and procedures. There is also a need to compile information on funding sources for such data collection and analytical efforts. It was recommended by several persons that a clearinghouse for information on studies planned by various organizations might help to reduce duplication of efforts. Noting that incomplete information and inability to validate much of the available information was the rule rather than the exception, participants called for improved data collection and analysis in these specific areas—geographic distribution, the impact of credentialing requirements, and existing or potential cost benefits of improved utilization of these occupations.

The workshop group was not inclined to develop a final list of issues and recommendations for future action, particularly as few felt that they could yet commit their organizations to major efforts or allocations of resources. Nevertheless, the enthusiasm this workshop generated seemed to augur well for cooperative national efforts in data collection and analysis. Concerns were seldom raised throughout the conference about possible submersion of organizational identity as a factor limiting cooperation, and the professional association representatives expressed a strong desire to take a leading role in future meetings and projects.

Next Steps

The participants agreed to create an Ad Hoc Working Group on Allied Health Manpower to plan an agenda for a series of small and large group meetings on specific issues and problems. The Ad Hoc Group might consider, at some early date, the possibility of updating and refining basic resource documents or systems currently being developed by the Bureau of Health Manpower. These could include the Report on Allied Health Personnel, prepared for Congress and published by the Division of Associated Health Professions, and the national estimates and forecasting projects being developed by the Division of Manpower Analysis.

The Ad Hoc Group will consist of eight members. For its initial meetings the four non-Federal representatives are from Washington-based professional associations—James Clinkingbeard, Pamela Griffith, Kenneth Perrin, and Fran Acquaviva, who will chair and host the first meeting of the Ad Hoc Group. The four Federal representatives are David B. Hoover, B. Jerald McClendon, Howard V. Stambler, and Stuart Bernstein.

Information about the group and its plans can be requested from Fran Acquaviva, Director of Operations Research, American Occupational Therapy Association, 6000 Executive Blvd., Rockville, Md. 20852, telephone: 301-770-2200, extension 54.

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